

REMARKS

Claims 1, 6, 12-15, 18, 24-30, and 37 are pending in the application. Claims 12-15 are allowable. Claims 18, 24-29, and 37 were rejected under 35 USC 102(b) over U.S. Patent No. 4,757,268 to Abrams. Claims 1, 6, and 30 were rejected under 35 USC 103(a) over U.S. Patent No. 5,048, 030 to Hiiron ("Hiiron"). Applicant cancels claims 18, 24-30, and 37 without prejudice. Applicant amends independent Claim 1.

With regard to the 35 USC 103(a) rejection of Claim 1 over Hiiron, Applicant respectfully disagrees with the arguments provided by the Patent Office and responds as follows.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations¹.

Upon examination of each of the three legal requirements of the *prima facie* case of obviousness in view of the Patent Office's rejection of Claim 1, Applicant asserts that the Patent Office has satisfied none of the three requirements. Claim 1 as amended specifically points out that the two laser beams are combined in the apparatus in a lossless fashion with regard to a characteristic property and that no amplification of either of the light beams is done in the claimed apparatus. Contrary to the present invention, Hiiron discloses an amplifying device which pumps up the intensity of the laser beams up to a predetermined level of intensity. No mention of combining original light beams in a lossless fashion is even present in Hiiron, because Hiiron doesn't concern a lossless beam combination. In the Hiiron amplifying device the laser beams can be continued to be pumped to the required intensity to compensate for any loss of intensity occurring during the combination process. As described in Hiiron, "the whole of the laser beam emitted from the semiconductor laser 10A is led to be incident on the semiconductor laser 10B and the whole of

¹ MPEP 2142-2143

the laser beam emitted from the semiconductor laser 10B is led to be incident on the semiconductor laser 10A, as a result of repetition of which process the laser beams are amplified” (Col. 11, lines 27-33). Contrary to Hiiron, the present invention provides no amplification, and the intensity of the combined light beam output by the apparatus of the present invention equals a sum of the original intensities of the non-amplified laser beams. Therefore, Hiiron alone or in a combination with evidence of record does not teach or suggest the limitations of a non-amplified combination of beams in a largely lossless fashion as claimed in amended Claim 1.

Moreover, upon closer examination of Col. 11 lines 43-36, as cited by the Patent Office, it becomes clear that the role of the Wollaston prism in the embodiment of Fig. 5 of Hiiron is to split the incoming laser beam (Col. 11, line 44) into one beam propagation along the “e” direction toward laser source 10A for amplification and into the other beam propagating along the “o” direction toward laser source 10B for amplification. No mention or teaching or suggestion could be found in that description of Hiiron to come up with a non-amplified largely lossless combination of the light beams. Therefore, applicant respectfully requests that the rejection be withdrawn and Claim 1 as amended be allowed.

With regard to some suggestion or motivation to modify the reference or to combine reference teachings with general knowledge, as well as to a reasonable expectation of success, it has been well articulated that a factual inquiry whether to combine references must be based on objective evidence of record² and that teachings of references can be combined only if there is some suggestion or incentive to do so³. Consequently, because all elements of independent amended Claim 1 or are not disclosed or even suggested in Hiiron, , there is no objective evidence found on the record that Hiiron together with some general knowledge can be combined to come up with the invention claimed in amended Claims 1. Similarly, no reasonable expectation of success of combining Hiiron and some general knowledge to come up with the invention claimed in Claims 1 could be found in Hiiron, since they don’t even disclose or suggest all the limitations of the invention claimed in Claim 1. Hiiron discloses an amplifier, the words “loss” or “lossless” could

² In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

not be found in the whole text of Hiirō even once. Therefore, the Patent Office has not met its burden of proof to establish a prima facie case of obviousness with regard to independent amended Claim 1. Applicants respectfully ask the Patent Office to withdraw the obviousness rejection and allow Claim 1 as amended. Claim 6 depends off Claim 1 and is now allowable.

Claims 12-15 were allowable if rewritten in independent form. Application requests that Claims 12-15 be preserved for allowance pending allowance of amended Claim 1 in light of the present remarks.

The Examiner is respectfully asked to telephone the undersigned attorney at the number provided below to discuss the pending claims and accelerate their allowance.

Respectfully submitted,

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³ In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).